

EXHIBIT 1

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571-272-7822

Paper 14
Date: September 25, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASIMO CORPORATION,
Petitioner,

v.

APPLE INC.,
Patent Owner.

IPR2023-00634
Patent 10,627,783 B2

Before KEN B. BARRETT, JOSIAH C. COCKS, and
ROBERT L. KINDER, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

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I. INTRODUCTION

A. *Background and Summary*

Masimo Corporation (“Petitioner”)¹ filed a Petition requesting *inter partes* review of U.S. Patent No. 10,627,783 B2 (“the ’783 patent,” Ex. 1001). Paper 1 (“Pet.”). The Petition challenges the patentability of claims 1–20 of the ’783 patent. Apple Inc. (“Patent Owner”)² filed a Preliminary Response to the Petition. Paper 8 (“Prelim. Resp.”). With our authorization (Paper 11), Petitioner filed a preliminary Reply (Paper 12, “Pet. Prelim. Reply”) and Patent Owner filed a preliminary Sur-reply (Paper 13, “PO Prelim. Sur-reply”).

An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Having considered the arguments and evidence presented by Petitioner and Patent Owner, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing on at least one of the challenged claims of the ’783 patent. Accordingly, we institute an *inter partes* review as to all the challenged claims of the ’783 patent on all the grounds of unpatentability set forth in the Petition.

B. *Related Proceedings*

Both parties identify, as a matter involving or related to the ’783 patent, *Apple Inc. v. Masimo Corporation and Sound United, LLC*,

¹ Petitioner identifies Masimo Corporation as the real party-in-interest. Pet. 7.

² Patent Owner identifies Apple Inc. as the real party-in-interest. Paper 3.

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No. 1:22-cv-01378-MN (D. Del.). Pet. 7; Paper 3. Patent Owner also states that “[p]rosecution is ongoing in four patent applications that are continuations of the ’783 Patent,” and identifies those as: No. 17/188,995; No. 17/951,973; No. 18/075,253; and No. 18/119,175. Prelim. Resp. 11–12.

C. The ’783 Patent

The ’783 patent pertains to “a wearable electronic device having a range of features, including touch input, force input, an interchangeable attachment system, health monitoring functionality, wireless power charging, wireless authentication and transaction functionality, and other features and functionality.” Ex. 1001, 1:19–25. A wristwatch is an example of the wearable electronic device. *See id.* at 6:55–67. According to the ’783 patent, “some traditional portable electronic devices, particularly wearable electronic devices, may have relatively limited functionality or are only able to perform a specialized set of functions or tasks.” *Id.* at 1:32–36. The Specification states that it addresses this by describing embodiments that “are directed to a wearable electronic device that provides a wide range of functionality, as compared to some traditional wearable electronic devices.” *Id.* at 1:39–42.

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Figure 8 of the '783 patent is reproduced below.

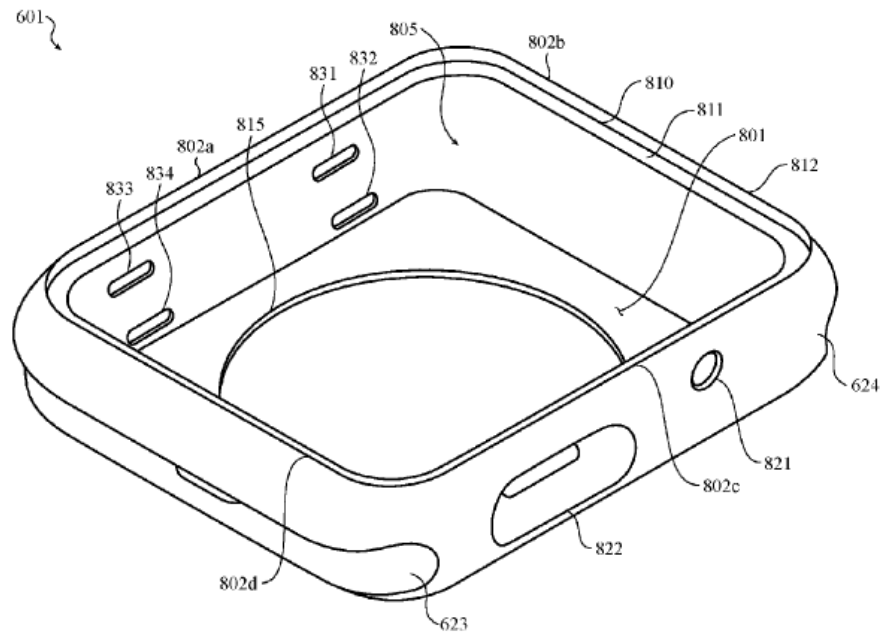


FIG. 8

Figure 8 “depicts an example housing for a wearable electronic device.” *Id.* at 6:11–12. As shown, an opening or aperture 815 is formed in bottom portion 801 of housing 601. *Id.* at 30:65–66

In some example embodiments, the device includes a biosensor module that is disposed in an opening formed in the flat bottom portion of the housing. The biosensor module may include a chassis positioned in the opening of the housing and defining an array of windows. An array of light sources may be attached to the chassis and configured to emit light into the user through the array of windows. The biosensor module may also include an optically transparent rear cover disposed over the chassis and over the array of windows and operative to pass light emitted from the array of light sources into the user.

Id. at 2:44–54.

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Figure 16 of the '783 patent is reproduced below.

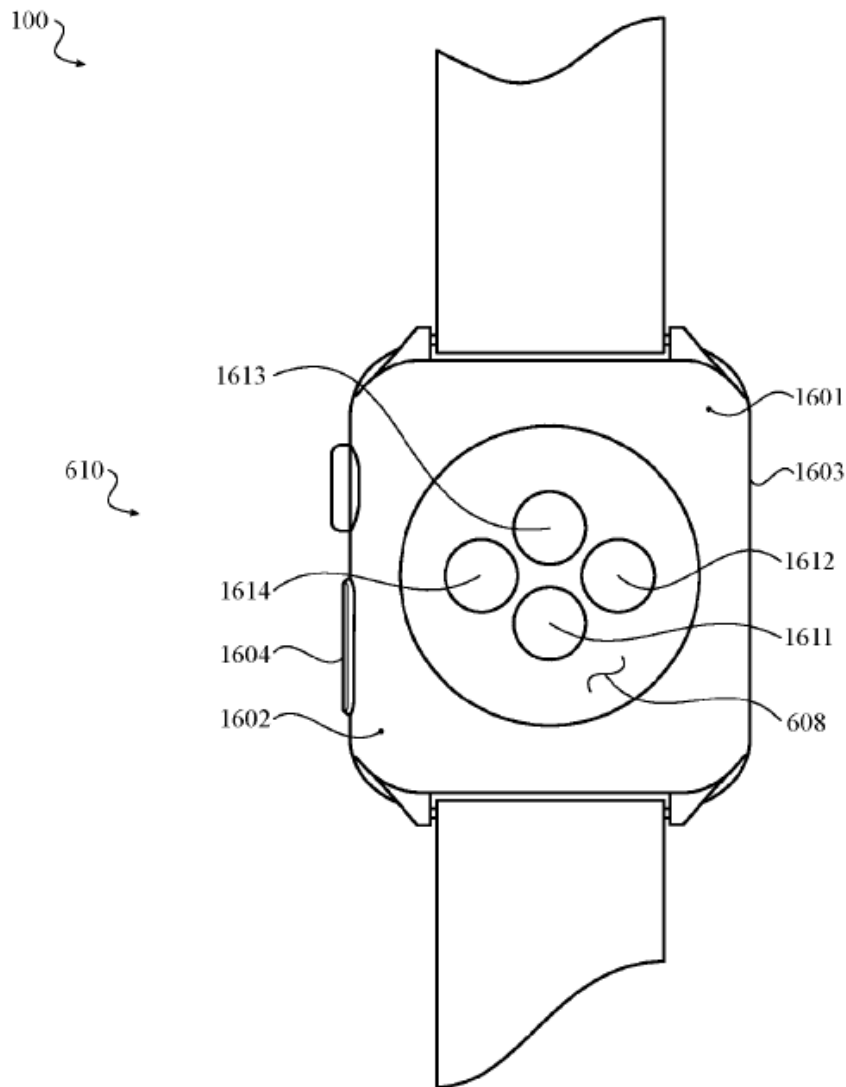


FIG. 16

Figure 16 “depicts an example device having biosensors.” *Id.* at 6:25. Shown is an array of light sources 1611–1613 and detector 1614 that, together, may be configured to function as an optical sensor such as a photoplethysmography (PPG) sensor, which may be used to compute, for example, heart rate. *Id.* at 38:23–26, 38:37–41, 38:65–39:2. Also shown are first electrode 1601 and second electrode 1602 disposed on the rear face of the device 100 and that may be configured to make contact with the skin of

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the user's wrist when the device is being worn. *Id.* at 39:40–46. “[T]he electrodes may be configured to detect electrical activity produced by the heart of the user to measure heart function or produce an electrocardiograph (ECG).” *Id.* at 39:67–40:3.

The device may also include a receive coil within the housing configured to inductively couple with an external transmit coil. A power conditioning circuit may be configured to recharge the rechargeable battery using power received by the receive coil. . . . The device may also include a first alignment magnet positioned within the receive coil and configured to align the device with respect to a second alignment magnet positioned within the external transmit coil.

Id. at 5:31–40.

Figure 18 of the '783 patent is reproduced below.

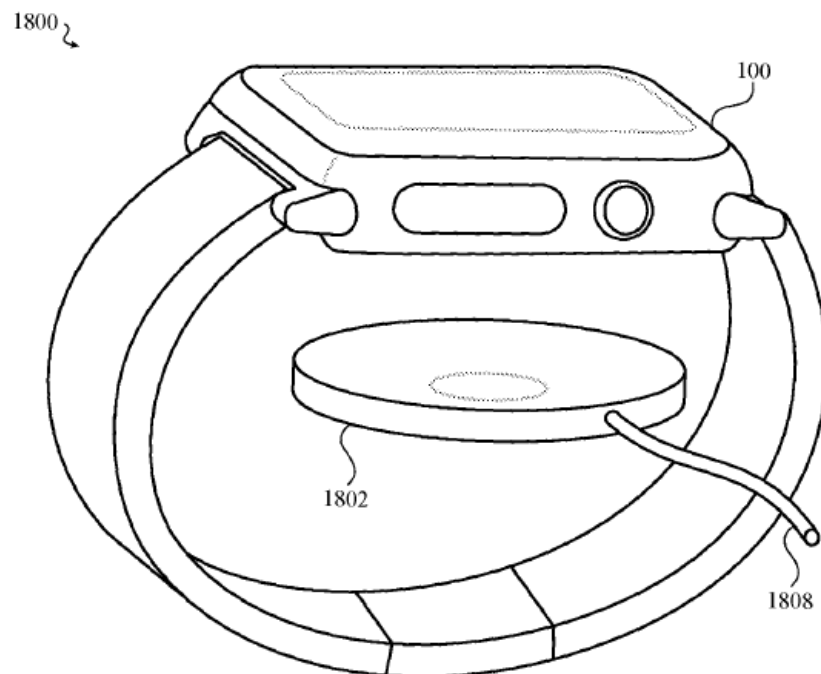


FIG. 18

Figure 18 “depicts a front perspective view of an example wireless power transfer system 1800 in an unmated configuration” and “shows an inductive

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power transmitter dock 1802 that is configured to couple to and wirelessly transmit power to an inductive power receiver accessory, in this case device 100.” *Id.* at 43:5–10.

Figure 19 of the ’783 patent is reproduced below.

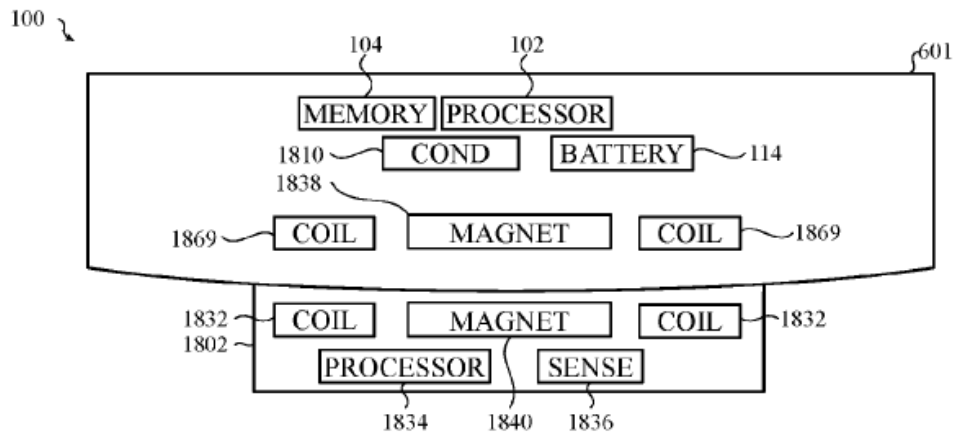


FIG. 19

Figure 19 “depicts a block diagram of an example inductive charging system.” *Id.* at 6:30–31. “[T]he device 100 includes a receive coil 1869 having one or more windings for inductively coupling with a transmit coil 1832 of the dock 1802.” *Id.* at 44:41–43. “The receive coil 1869 may receive power wirelessly from the dock 1802 and may pass the received power to a battery 114 within the device 100 via power conditioning circuit 1810.” *Id.* at 44:43–46.

D. Illustrative Claim

Of the challenged claims of the ’783 patent, claims 1, 9, and 15 are independent claims. Claim 9 reproduced below with Petitioner’s annotations³ inserted is illustrative.

³ We utilize Petitioner’s annotations for claim 9 but have retained the paragraph formatting from the issued patent.

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9. [9a] A wearable electronic device, comprising:
 a housing comprising a bottom portion defining an opening;
 [9b] a biosensor module aligned with the opening;
 [9c] a wireless charging receive coil positioned within the
 housing and aligned with the opening;
 [9d] a battery operably coupled to the wireless charging receive
 coil; and
 [9e] a cover disposed over the biosensor module; wherein:
 the cover is configured to pass optical signals to and from the
 biosensor module; and
 [9f] the cover is configured to pass wireless power to the
 wireless charging receive coil.

Ex. 1001, 58:62–59:7.

E. Evidence

Petitioner relies on the following references:

Name	Reference	Exhibit(s)
Kotanagi	WO 2005/092182 A1, published Oct. 6, 2005	1005
Honda	US 6,265,789 B1, issued July 24, 2001	1006
Park	US 2015/0214749 A1, published July 30, 2015	1012
Kateraas	US 2012/0221254 A1, published Aug. 30, 2012	1014
Jabori	WO 2015/116111 A1, published Aug. 6, 2015	1017
Fraser	US 2015/0355604 A1, published Dec. 10, 2015	1041

Petitioner also relies on the declaration of R. James Duckworth, Ph.D. (Ex. 1003) in support of its arguments. The parties also rely on other exhibits as discussed below.

F. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

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Claim(s) Challenged	35 U.S.C. § ⁴	Reference(s)/Basis
9–11, 15, 19, 20	103	Kotanagi, Honda
16	103	Kotanagi, Honda, Park
1–7, 14	103	Kotanagi, Honda, Kateraas
12–13, 17–18	103	Kotanagi, Honda, Jabori, Park
3, 14	103	Kotanagi, Honda, Kateraas, Fraser
8	103	Kotanagi, Honda, Jabori, Kateraas, Park

II. THE PROSECUTION HISTORY

Early in prosecution, independent application claim 12, for example, recited, *inter alia*, an electronic device with a biosensor module disposed in an opening in bottom portion of the housing and a rear cover over the biosensor module, with that cover having an outer surface with a convex curved contour. Ex. 1002, 2099 (Preliminary Amendment). The Examiner articulated several rejections of the then-pending claims, *id.* at 1478–1493, including a rejection of application claim 12 as being anticipated by Yuen,⁵ with the Examiner finding that Yuen discloses a wearable electronic device with a biosensor in the bottom and a rear cover having the recited shape, *id.* at 1478–1479.

⁴ The Leahy-Smith America Invents Act (“AIA”) includes revisions to 35 U.S.C. §§ 102 and 103 that became effective on March 16, 2013. Because the earliest filed application identified in the ’783 patent has a filing date of September 2, 2014 (Ex. 1001, codes (60), (63), 1:3–14), we apply the AIA-version of 35 U.S.C. § 103.

⁵ US 2014/0107493 A1, published April 17, 2014 (Ex. 2001). This is not the same Yuen reference discussed on page 62 of the Petition. *See* Pet. 62 (citing Ex. 1016 (US 2014/0135594 A1, published May 15, 2014)).

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An interview between the Examiner and the applicant was conducted, with the Examiner summarizing that interview as follows:

The prior art was discussed in the light of the claimed invention. And Applicant proposed adding structural features to the claim including features that facilitate wireless charging, such as a ceramic cover configured to allow transmission of biosensor signals and wireless charging signals. Such amendment was considered to overcome the prior art of record.

Id. at 1269.

In response, the applicant canceled the then-pending claims and added new ones. *Id.* at 1273–1281. According to the applicant:

New claims that more clearly define the differences between the claims and the prior art were discussed. In particular, the Examiner agreed that claims that include structural elements, such as a rear cover, that allow transmission of both biosensor signals and wireless charging signals would overcome the current rejections.

Id. at 1279; *see also id.* at 1280 (the applicant arguing that “new claims 35–54 include structural elements that allow transmission of both biosensor signals and wireless charging signals, which is not taught or suggested by the cited references”).

Later during prosecution, the Examiner issued a Notice of Allowability. *Id.* at 386. The Examiner’s statement of reasons for allowance is that “the prior art fails to teach or suggest the specific arrangement and configuration of the claimed cover, opening in the housing, and wireless charging coil.” *Id.* at 387.

III. 35 U.S.C. § 325(d)

Patent Owner contends that we should exercise discretion under 35 U.S.C. § 325(d) to deny the Petition, applying the Board’s precedential decision in *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte*

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GmbH, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”). Prelim. Resp. 25–51; PO Prelim. Sur-reply 1–7. For the reasons below, we do not exercise discretion to deny institution under § 325(d).

Section 325(d) provides that, in determining whether to institute an *inter partes* review, “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d). The Board uses a two-part framework in determining whether to exercise its discretion under § 325(d), specifically:

- (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and
- (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, Paper 6 at 8.

Patent Owner first argues that Petitioner should not be allowed to file a Preliminary Reply to address § 325(d) issues, because, in Patent Owner’s view, the Petition was inadequate in this regard. *See* PO Prelim.

Sur-reply 1–3; *see id.* at 3 (“The current record presents a clear case of improper burden shifting, with Petitioner presenting a cursory and deficient 325(d) analysis in its Petition, and attempting to cure that deficiency after having the benefit of reviewing the POPR’s detailed rebuttal arguments.”). Patent Owner argues that Petitioner had a burden to fully address the *Advanced Bionics* inquiries in the Petition and before a § 325(d) argument was raised by Patent Owner in the Preliminary Response. *See, e.g., id.* at 3

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(“Petitioner . . . had the burden to demonstrate material error during prosecution, and its Petition should have addressed the very issues/arguments it now presents in its Reply.”); Prelim. Resp. 40 (“Petitioner made no showing in its §325(d) analysis [in the Petition] to address or even refute any error in the Examiner’s assessment or rationale for allowability. . . . In other words, Petitioner simply did not grapple with the foreseeable issue of what led to allowance nor did Petitioner articulate any rationale or identify any evidence suggesting that the examiner erred in reaching this conclusion in view of the art of record.”). According to Patent Owner, “[a]t a minimum . . . , the petition here should have scrutinized the prosecution record to address these [*Advanced Bionics*] inquiries when addressing §325(d).” PO Prelim. Sur-reply 1.

Patent Owner is rehashing the unpersuasive arguments made in its opposition to Petitioner’s request to file a reply to the Preliminary Response’s arguments based on the unforeseeability of the specific § 325(d) arguments. *See* Ex. 1051 (transcript of the conference call discussing Petitioner’s request to file a reply), 12:20–26:18, 29:12–31:20; *see* PO Prelim. Sur-reply 2 (continuing to argue that “Petitioner . . . failed to address this foreseeable issue in its 325(d) section.”). We addressed those arguments in our order authorizing Petitioner to file a Reply to the Preliminary Response (and for Patent Owner to file a Sur-reply). Paper 11, 3–5. We stated, *inter alia*, that “Patent Owner’s basis for the allegation of an improper burden shift is unclear” and noted that “*Advanced Bionics* addresses the analysis done by the Board at the time of evaluating the parties’ arguments and evidence and determining whether to exercise discretion to deny a petition.” *Id.* at 5 (citing *Advanced Bionics*, Paper 6

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at 8). The basis for Patent Owner's arguments concerning a purported burden as of the time of the petition filing remains unclear. Patent Owner identifies no rule, statute, or precedent that requires a petitioner to meet any burden on § 325(d) issues in the petition and prior to the filing of a patent owner's preliminary response.⁶ We decline to refuse consideration of Petitioner's Reply to the Preliminary Response as Patent Owner urges. We now turn to Patent Owner's *Advanced Bionics* arguments.

Patent Owner argues that the Petition should be discretionarily denied, asserting that: "(1) the Petition advances substantially the same prior art references or arguments that were previously presented to and considered by the Examiner during prosecution and (2) Petitioner has not demonstrated that the Office erred in a manner material to the patentability of challenged claims." Prelim. Resp. 25 (citing *Advanced Bionics*, Paper 6 at 8). Regarding the first contention, Patent Owner does not assert that Petition's references were before the Examiner during the prosecution of the application that led to the '783 patent, but argues that the Petition's

⁶ We do not hold that it is never necessary for a petition to address a § 325(d) issue (or any other discretionary denial issue). A reply to a patent owner's preliminary response is not a matter of right. If, for example, a petition does not address adequately a foreseeable issue, petitioner does so at its own peril. *See, e.g.*, 37 C.F.R. § 42.108(c) ("A petitioner may seek leave to file a reply to the preliminary response in accordance with §§ 42.23 and 42.24(c). Any such request must make a showing of good cause.").

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references Kotanagi, Honda, and Kateraas are substantially the same as certain references considered by the Examiner.⁷ *See id.* at 28, 34–25.⁸

As mentioned above, the Examiner’s reason for allowance was that “the prior art fails to teach or suggest [in a biosensor device] the specific arrangement and configuration of the claimed cover, opening in the housing, and wireless charging coil.” Ex. 1002, 387. The applicant characterized, as the added features that rendered the claims allowable, “structural elements, such as a rear cover, that allow transmission of both biosensor signals and wireless charging signals.” *Id.* at 1279; *see* PO Prelim. Sur-reply 3–4 (Patent Owner making a similar assertion). Petitioner contends that the references relied on in the Petition are “materially stronger” than and, therefore not cumulative of, the references before the Examiner. *See* Pet. Prelim. Reply 1. Petitioner also contends that Patent Owner, in the Preliminary Response, “only argues references individually, failing to assert any combinations that are collectively as strong as, for example, Kotanagi and Honda together.” *Id.* at 5. Petitioner further contends that the Petition

⁷ We focus our discussion on the prosecution references discussed by Patent Owner in its Preliminary Sur-reply. Patent Owner initially identified in the Preliminary Response several purportedly cumulative prosecution references (Prelim. Resp. 29–32, 36–38), but did not argue all of those references in the Sur-reply. For example, Patent Owner argued that prosecution reference Shim is cumulative of the Petition’s Kotanagi reference (*id.* at 29–30, 32), but did not maintain that argument after Petitioner replied that Shim is not prior art to the ’783 patent (Pet. Prelim. Reply 2).

⁸ Patent Owner also asserts that “the Petition advances . . . arguments that are cumulative of what was previously presented to and considered by the Office during prosecution” (Prelim. Resp. 26), but does not clearly identify any such arguments.

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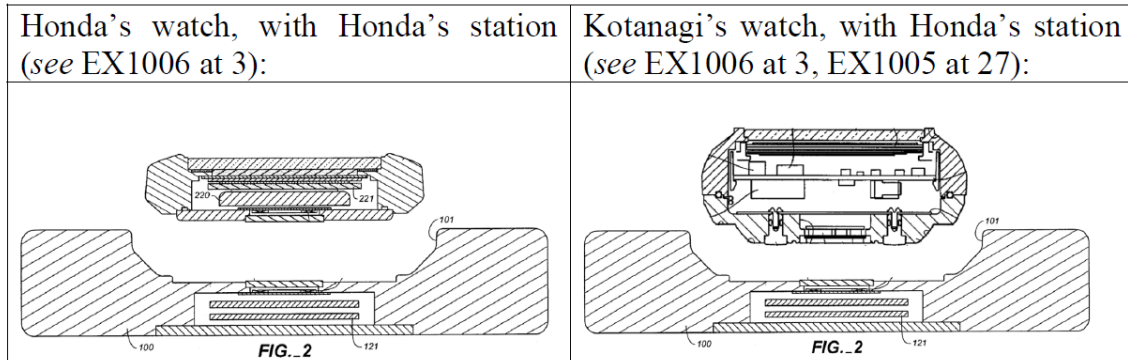
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presents motivations for which Patent Owner does not argue are cumulative of anything in the prosecution history. *Id.*

Petitioner’s proposed combination of Kotanagi and Honda form the basis of all the challenges in the Petition. Petitioner contends that Kotanagi and Honda both teach the use, in an electronic watch, of both a biosensor and wireless charging, with each reference focusing on the component of one of those aspects and each having the pertinent component aligned with a glass covered opening. *See* Pet. 22–24. According to Petitioner, these references have reciprocal and compatible teachings that provide a motivation for making the proposed combination that results in a watch having both an optical signal biosensor and a wireless charging coil aligned with a glass covered opening in the rear face of the watch. *See* Pet. 24–25 (asserting that Honda is “providing compatible disclosure”); Pet. Prelim. Reply 2 (“The petition then cites *Honda*, which, reciprocally, suggests combination with *Kotanagi*, teaching both wireless watch charging and pulse/heart rate sensing.”). Petitioner also contends that not only are the references’ teachings combinable, but that the disclosed embodiments are physically combinable in a complimentary manner. *See* Pet. Prelim. Reply 5 (“The petition (at 94) shows how well these references would nest for charging,” and “[Patent Owner] has not shown how any set of file history references fits together so well.”); *see also* Pet. 25 (Petitioner asserting that the two references are both assigned to Seiko and that “Honda’s watch structure is similar in size and purpose to the watch of Kotanagi”). Petitioner provides, as reproduced below, a demonstrative figure alongside Honda’s Figure 2.

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Pet. 94; see also Pet. Prelim. Reply. 5 (same). Above, on the left is Honda's Figure 2 (a sectional view showing the construction of Honda's station and electronic watch), and, on the right, is Honda's station and Kotanagi's electronic watch. *Id.*; Ex. 1005, Fig. 7; Ex. 1006, 5:20–21.

Patent Owner argues that “like Kotanagi, Yuen—a reference that was applied in a rejection—discloses a wrist-worn device with rear biosensors that facilitate transmission of optical signals via device's rear cover/opening.” PO Prelim. Sur-reply 4. Petitioner, in reply, notes that the Examiner's reasons for allowance pertained to the arrangement of wireless charging components added to a biosensor watch, and argues that “*Kotanagi* is superior to *Yuen*, which lacks wireless charging disclosure.” Pet. Prelim. Reply 2. Patent Owner does not dispute Petitioner's assertion that Yuen lacks a disclosure of wireless charging. See PO Prelim. Sur-reply 4–5.

Patent Owner next argues that prosecution reference Mistry discloses devices with both biosensing and wireless charging capability and thus is cumulative of Kotanagi and Honda individually. See *id.* at 4–5; see also Prelim. Resp. 31. Patent Owner, however, does not direct our attention to any disclosure in Mistry cumulative of Kotanagi's alignment of a biosensor with a rear opening. See Prelim. Resp. 32 (citing Ex. 2005 ¶¶ 124–125, 127–128); PO Prelim. Sur-reply 4–5. And, Petitioner persuasively replies

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that, “[f]or wireless charging, Honda is superior because *Mistry* only refers to putting a coil ‘in or on’ the device body or band,” whereas Honda discloses the claimed alignment with a covered opening. Pet. Prelim. Reply 3 (citing Ex. 2005 ¶¶ 127–128).

Patent Owner argues that prosecution reference *Mooring* is cumulative of Honda because *Mooring* “describes wrist-worn [biosensor] devices being wirelessly charged via coils positioned and attached to the back cover of the device.” Prelim. Resp. 30–31 (citing Ex. 2004, 1:38–53); *see* PO Prelim. Sur-reply 5–7. We agree with Petitioner that *Mooring*’s teaching of a charging coil located generally on the back of a device is not as strong as Honda’s teachings of aligning a coil with a covered opening. *See* Pet. Prelim. Reply 3 (“Honda is far superior to *Mooring* to show the ‘specific arrangement and configuration of the claimed cover, opening in the housing, and wireless charging coil.’” (quoting Ex. 1002, 387)).

Petitioner’s Ground 3 challenges, *inter alia*, independent claim 1, which is the only independent claim reciting that the cover is ceramic. Petitioner first contends that the combination of Kotanagi and Honda (as discussed above) renders obvious the claimed subject matter, asserting that glass is a ceramic and that Kotanagi discloses a glass cover that would align with both the biosensor and charging coil in the proposed combination. *See* Pet. 60. In the alternative, Petitioner contends that Kateraas discloses a ceramic (sapphire) window for optical sensors on an electronic watch. *Id.* at 60–61; *see* Pet. Prelim. Resp. 3. Patent Owner argues that cumulative references were applied by the Examiner, asserting that Yuen discloses a glass biosensor cover and that Burton discloses the use of sapphire for, at least, top (watch display) covers. *See* PO Prelim. Sur-reply 5–6; Prelim.

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Resp. 33–35 (citing Ex. 1002, 1478–1480, 1493); *see also* PO Prelim. Sur-reply 2 (arguing that the claims were allowed because of the specific configuration, not because of “the ancillary features like . . . [the] ceramic cover And given that these ancillary features did not lead to allowance, it follows that the Examiner found them to be disclosed by the art of record.”). However, Patent Owner does not direct us to a teaching in either reference of a configuration of a charging coil aligned with such a cover, whereas Petitioner relies on Honda for that important teaching. Even if ceramic covers were well-known in the art and were disclosed in references considered by the Examiner, that does not weigh heavily towards the exercise of discretion under the facts of this case, particularly where that impacts only one of three independent claims being challenged.

We agree with Petitioner that at least Kotanagi and Honda, and the proposed combination thereof, are stronger than and not substantially the same as the references previously before the Examiner. In particular, Honda’s teaching of aligning a charging coil over a covered opening in the back of the watch directly relates to the features identified as the reason for allowance and is not cumulative of a teaching in the art before the Examiner. Accordingly, although we have considered Patent Owner’s request for exercise of discretion to deny institution under 35 U.S.C. § 325(d), on the record before us, we conclude that denial of institution on that basis is not warranted. We proceed to consider the merits of Petitioner’s proposed grounds of unpatentability below.

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IV. ANALYSIS OF PETITIONER’S CHALLENGES

A. Principles of Law

Petitioner bears the burden of persuasion to prove unpatentability of the claims challenged in the Petition, and that burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4), if present, any objective evidence of obviousness or non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. The Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quoting *Custom Accessories, Inc. v. Jeffrey–Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed.Cir.1986)).

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Petitioner contends that:

A POSITA [(person of ordinary skill in the art)] of the '783 patent would have had at least a bachelor's degree in a discipline related to electrical engineering, mechanical engineering, physics, industrial design, or equivalent, and at least three years of experience working with or developing electronic medical or consumer devices.

Pet. 12 (citing Ex. 1003 ¶¶ 39–42).

Patent Owner contends that:

a person of ordinary skill in the art . . . would have had at least a bachelor's degree in electrical engineering, mechanical engineering, biomedical engineering, computer engineering, physics, or a related field, and would have had at least two years of relevant work experience with capture and processing of data or information, including but not limited to physiological information, or equivalents thereof. Less work experience may be compensated by a higher level of education and vice versa.

Prelim. Resp. 17.

We discern no material difference between the parties' definitions. Petitioner's definition is consistent with the level of ordinary skill reflected in the prior art references of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (recognizing that the prior art itself may reflect an appropriate level of skill in the art). For purposes of this decision, we apply Petitioner's definition of the person of ordinary skill in the art. We note, however, that were we to adopt Patent Owner's assessment, the outcome of this Decision would be the same.

C. Claim Construction

We apply the same claim construction standard used in district court actions under 35 U.S.C. § 282(b), namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b).

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In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner proposes constructions for “a ceramic cover,” “biosensor module,” and “ceramic cover defines a [first/second] opening to [transmit/receive] the light.” Pet. 13–16 (alterations in original). Patent Owner states: “While not agreeing with Petitioner’s proposed constructions (or lack thereof) for certain claim terms (*see* Petition, 13–16), *solely* for purposes of this Preliminary Response, Patent Owner does not object to the constructions proposed by Petitioner at this time.” Prelim. Resp. 17.

On this record and for purposes of this decision, we determine that no claim terms require express construction.

*D. The Alleged Obviousness of Independent Claims 9 and 15
Over Kotanagi and Honda (Ground 1)*

Petitioner alleges that claims 9–11, 15, 19, and 20 of the ’783 patent would have been obvious over Kotanagi and Honda. *See* Pet. 21–32 (addressing independent claim 9). Of those challenged claims, claims 9 and 15 are independent. Petitioner contends, *inter alia*, that Kotanagi discloses much of the subject of independent claim 9, and that Honda discloses wireless charging teachings and structure, including the alignment of the charging coil with an opening in the rear of the housing. *See id.*

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Patent Owner's Preliminary Response primarily is directed to discretionary denial under § 325(d) and does not contain a section explicitly directed to the merits of Petitioner's challenges. *See* Prelim. Resp. i (Table of Contents). However, Patent Owner, in asserting that the Examiner did not err in allowing the challenged claims, argues that Petitioner's grounds are flawed and therefore fail to show that the claims are unpatentable. *See, e.g., id.* at 39–51. For example, Patent Owner argues that the Examiner correctly found that the prosecution references were lacking and that “the petition's identified references for the independent claims are similarly deficient, i.e., none of the references for the independent claims disclose, suggest, or render obvious the features that actually led to the allowance of the claims, namely, a cover/opening configured to allow transmission of **both** biosensor signals and wireless charging signals.” *Id.* at 39. Patent Owner also argues that Petitioner has failed to show a motivation to make the proposed combination. *See id.* at 43. We address the parties' respective positions below.

1. Kotanagi (Ex. 1005)

Kotanagi discloses a biological information measuring device in the form of “a wristwatch-type device which detects pulse rate as a type of biological information while mounted to the wrist.” Ex. 1005 ¶ 44. “[B]iological sensor part 8 . . . includes an LED (Light Emitting Diode) (light-emitting part) 5 for emitting light toward the living body while in contact with the living body surface” and “a PD (Photodetector) (light-receiving part) 6 for receiving reflected light from the living body out of the light emitted by the LED 5 and generating a pulse signal (biological information signal) corresponding to the amount of received light.” *Id.* ¶ 46.

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Kotanagi's Figure 7 is reproduced below.

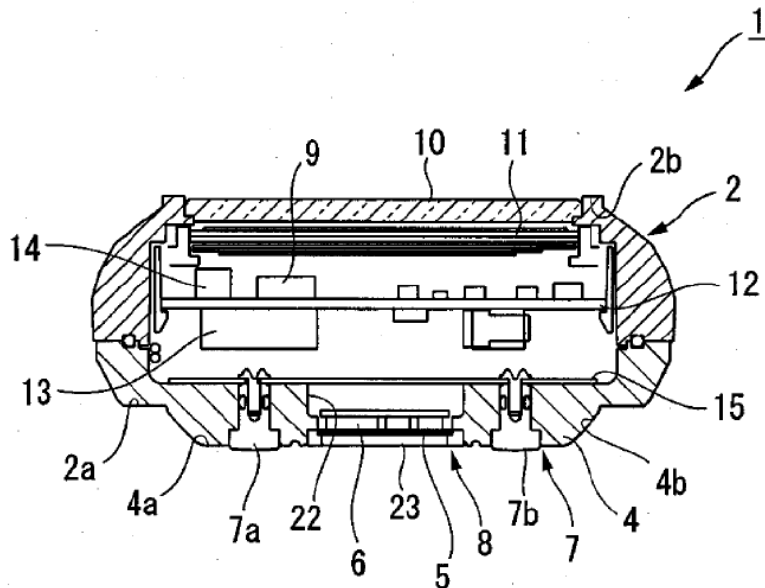


Figure 7 is FIG. 7 is a cross-sectional view of a biological information measuring device.” *Id.* ¶ 41.

[A] through-hole 22 passing through the outside and the inside of the housing 2 is formed in the center of the lower surface 4a of the protruding part 4, and a cover glass 23 is fixed to the housing 2 so as to block the through-hole 22. The LED 5 and the PD [photodetector] 6 are disposed adjacent to one another in a direction orthogonal to the longitudinal direction of the housing so as to touch the inside of the glass cover 23. That is, the LED 5 and the PD 6 are configured so as to be dropped into the protruding part 4. As a result, the LED 5 and the PD 6 are as close to the living body surface B as possible.

Id. ¶ 55. “The pair of electrodes 7a and 7b have a function of detecting whether there is contact with the living body surface B based on the potential difference between the electrodes.” *Id.* ¶ 59.

Kotanagi discloses that a connection terminal for recharging the battery by an external device is located on the side surface of the housing.

Id. ¶ 53. “In addition, rather than the external connection terminal 21, a transformer or the like for supplying power to a recharger and to the inside

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of the housing 2 may be provided so as to recharge the rechargeable battery 13 in a contactless state.” *Id.*

2. Honda (Ex. 1006)

Honda “relates to an electronic apparatus in which one of two devices charges the other in a non-contact fashion.” Ex. 1006, 1:4–6. Honda, in describing Figure 1, discloses that “the electronic watch 200 detects biological information including the pulse rate or the heart rate of the body through an unshown sensor and stores it.” *Id.* at 6:17–20.

Honda’s Figure 2 is reproduced below.

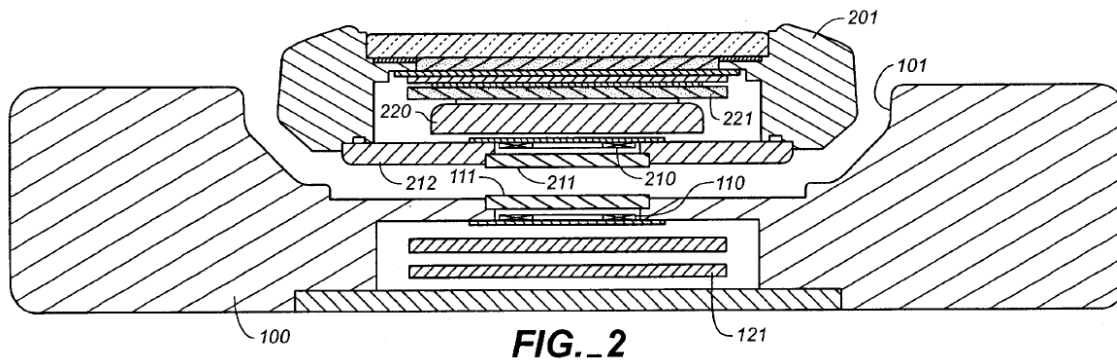


Figure 2 is a sectional view showing the construction of a station and an electronic watch. *Id.* at 5:20–21. “As shown, a watch-side coil 210 for the data transmission and the battery charging is arranged in a case back 212 of the watch body 201 and is covered with a cover glass 211.” *Id.* at 6:22–25. “The watch body 201 includes a circuit board 221, connected to a secondary battery 220 and a watch-side coil 210.” *Id.* at 6:25–27. “A station-side coil 110 is arranged in the portion of the socket 101 of the station 100, facing the watch-side coil 210, and is covered with a cover glass 111.” *Id.* at 6:28–30.

Honda discloses measured data comparing device housing materials and transmission efficiencies. *Id.* at 13:33–34, Fig. 15. Honda states that “the use of an insulating material [such as glass] for the external housing

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results in a transmission efficiency ten times as high as the one achieved by a stainless [steel] product.” *Id.* at 13:45–48, Fig. 15 (depicting transmission efficiency for stainless and glass materials); *see also id.* at 2:44–50 (explaining that eddy currents that take place in the electrically conductive stainless steel material of a device weakens the electromagnetic coupling).

3. The Alleged Obviousness of Independent Claim 9 Over Kotanagi and Honda

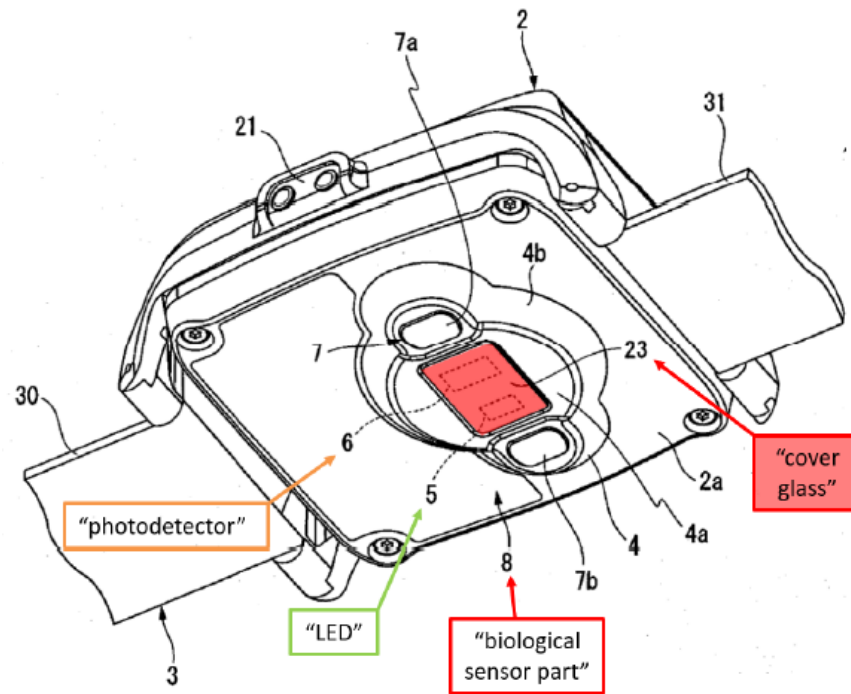
For reasons discussed below, Petitioner has shown a reasonable likelihood that it would prevail in establishing unpatentability of independent claim 9 as obvious over Kotanagi and Honda.

- a. [9a] A wearable electronic device, comprising:
a housing comprising a bottom portion defining an opening;
[9b] a biosensor module aligned with the opening;*

Petitioner contends that Kotanagi teaches a wearable electronic device, specifically a biological information measuring device, having a housing with an opening in the bottom. *See* Pet. 21–22 (citing Ex. 1003 ¶ 116; Ex. 1005 ¶¶ 45, 55, Figs. 5, 7). Petitioner also contends that “Kotanagi teaches a ‘biological sensor part’ aligned with the opening,” and that the Kotanagi’s biological sensor part is a “a biosensor module” within the meaning of the ’783 patent. *See* Pet. 22 (citing Ex. 1003 ¶ 117; Ex. 1005 ¶ 55, Figs. 5, 7); *see also id.* at 14 (Petitioner’s proposed construction for “biosensor module”). Petitioner provides an annotated version of Kotanagi’s Figure 5, which is reproduced below.

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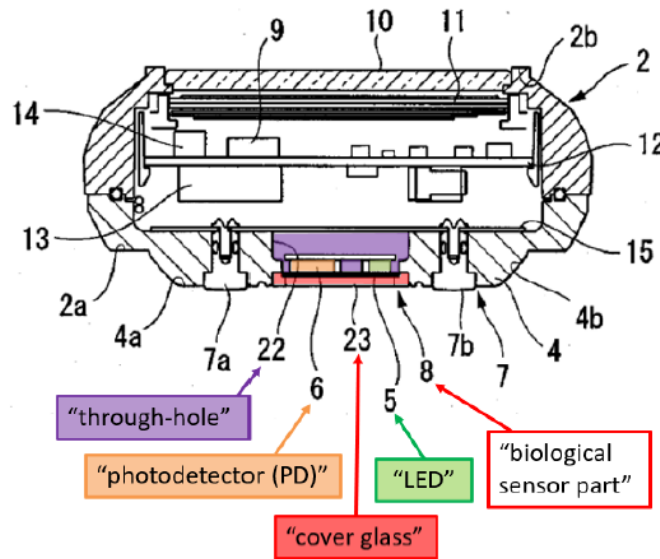


Pet. 22. Above, is Petitioner's annotated version of Kotanagi's Figure 5, which is a perspective view of a biological information measuring device. Ex. 1005 ¶ 41. Shown are Petitioner's annotations for biological sensor part 8, which includes LED (Light Emitting Diode) 5 and PD (photodetector) 6, and cover glass 23 (shaded red). *See* Ex. 1005 ¶¶ 46, 55.

Petitioner also provides an annotated version of Kotanagi's Figure 7, which is reproduced below.

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Pet. 22. Above, is Petitioner’s annotated version of Kotanagi’s Figure 7, which is a cross-sectional view of a biological information measuring device. Ex. 1005 ¶ 41. Shown are Petitioner’s annotations for biological sensor part 8, LED 5 (green), photodetector 6 (orange), cover glass 23 (red), and through-hole 22 (purple). See Ex. 1005 ¶¶ 46, 55.

Patent Owner does not raise any arguments regarding these contentions. Cf. PO Prelim. Sur-reply 4 (“Petitioner concedes that, like Kotanagi, Yuen—a reference that was applied in a rejection—discloses a wrist-worn device with rear biosensors that facilitate transmission of optical signals via device’s rear cover/opening.”).

- b. [9c] a wireless charging receive coil positioned within the housing and aligned with the opening;*
- [9e] a cover disposed over the biosensor module; wherein: the cover is configured to pass optical signals to and from the biosensor module; and*
- [9f] the cover is configured to pass wireless power to the wireless charging receive coil.*

Petitioner contends that the proposed combination of Kotanagi and Honda teaches the recited position and alignment of a wireless charging

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receive coil relative to the opening in the device housing. Pet. 22–25.

Relatedly, Petitioner contends that the proposed combination will result in the recited cover configured to pass optical signals and wireless power. *Id.* at 26–31.

Petitioner first contends that Kotanagi discloses the use of a wireless charging receive coil. Specifically, Petitioner notes that “Kotanagi teaches that ‘a transformer or the like for supplying power to a recharger and to the inside of the housing 2 may be provided so as to recharge the rechargeable battery 13 in a contactless state.’” *Id.* at 22 (quoting Ex. 1005 ¶ 53).

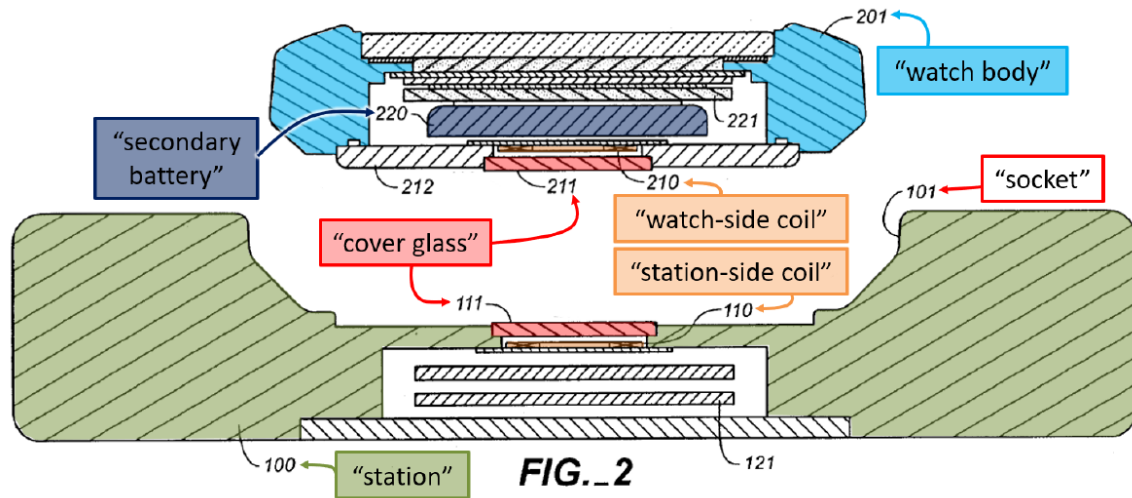
Petitioner contends that a person of ordinary skill in the art would have known “that transformers use coils and that contactless charging uses a wireless charging receive coil.” *Id.* at 22–23 (citing Ex. 1003 ¶ 118).

For the recited coil position and alignment with the housing opening, Petitioner turns to Honda. Petitioner contends that Honda is like Kotanagi in that Honda discloses a contactless charging system for an electronic watch with a biosensor, and that Honda discloses a contactless charging system for that watch. *Id.* at 23–24 (citing Ex. 1006, 6:17–19, Figs. 1, 2). Petitioner asserts that, “[l]ike Kotanagi, the Honda watch has a cover glass that spans an opening in the bottom surface of the watch.” *Id.* at 24. Petitioner further asserts that, “[w]ithin its housing and behind its cover glass, Honda illustrates a ‘wireless charging receive coil’ ‘aligned with the opening,’ as claimed.” *Id.* (citing Ex. 1006, Fig. 2).

One of Petitioner’s annotated versions of Honda’s Figure 2 is reproduced below.

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Id. at 30. Above, is Petitioner’s annotated version of Honda’s Figure 2, which is a sectional view showing the construction of a station and an electronic watch. Ex. 1006, 5:20–21. Shown is watch-side coil 210 (orange) arranged in case back 212 of watch body 201 (light blue) and covered with cover glass 211 (red). *Id.* at 6:22–25. Secondary battery 220 (dark blue) is inside watch body 201. *See id.* at 6:25–27. Also shown is station-side coil 110 (orange) arranged in the portion of socket 101 of station 100 (green), facing watch-side coil 210 (orange), and covered with cover glass 111 (red). *Id.* at 6:28–30.

Petitioner’s proposed combination modifies Kotanagi to have a charging receive coil in the housing and aligned behind the cover glass. *See* Pet. 30. Petitioner contends that:

A person of ordinary skill in the relevant field or “art” at the time of the ’783 patent (a “POSITA”) would have been motivated to combine Honda and Kotanagi (e.g., to apply Honda’s wireless charging teachings and structure to the Kotanagi device) based at least on Kotanagi’s own statement that its rechargeable battery can be recharged “in a contactless state.” EX1005¶(0053). A POSITA seeking to charge this way would have looked to Honda—assigned to another subsidiary of the same Seiko parent company and providing

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compatible disclosure—to implement Kotanagi’s stated goal. Honda’s watch structure is similar in size and purpose to the watch of Kotanagi and Honda teaches incorporating a sensor for “pulse rate” or “heart rate”. EX1006 6:17–19. Thus, a POSITA would have had a reasonable expectation of success in fitting Honda’s wireless charging receive coil within Kotanagi’s housing (e.g., in its “through-hole 22”) for Kotanagi’s expressed purpose of contactless recharging. EX1003 ¶121.

Pet. 24–25; *see also id.* at 31 (contending that, because the two references teach biosensor watches with wireless charging, each reference would have motivated a POSITA to look to the other).

Petitioner contends that Kotanagi’s cover glass 23, with the photodetector 6 and LED 5 behind it, is the recited cover disposed over the biosensor module as well as the recited cover configured to pass optical signals to and from the biosensor module. Pet. 26–27; *id.* at 27 (“A POSITA would have understood from this context that because Kotanagi’s ‘cover glass 23 is fixed to the housing 2 so as to block the through-hole 22’ (EX1005 ¶(0055)), its LED and photodetector work by passing optical signals *through* the cover glass.”).

As for the limitation calling for the cover to be configured to pass wireless power to the receive coil, Petitioner contends that Honda’s charging station “passes wireless power to the receive coil through a rear cover glass (similar to that of Kotanagi), using the physics of induced currents and magnetic flux,” and that Honda teaches that the charging and receiving coils must be aligned and at an acceptable distance from each other. *Id.* at 28–30 (citing Ex. 1006, 6:28–40, Figs. 2, 10).

Petitioner, as to the proposed modification, additionally contends:

Kotanagi’s cover glass is already centrally located at the base of the device consistent with Honda’s wireless charging design. A POSITA would have known to modify Kotanagi’s

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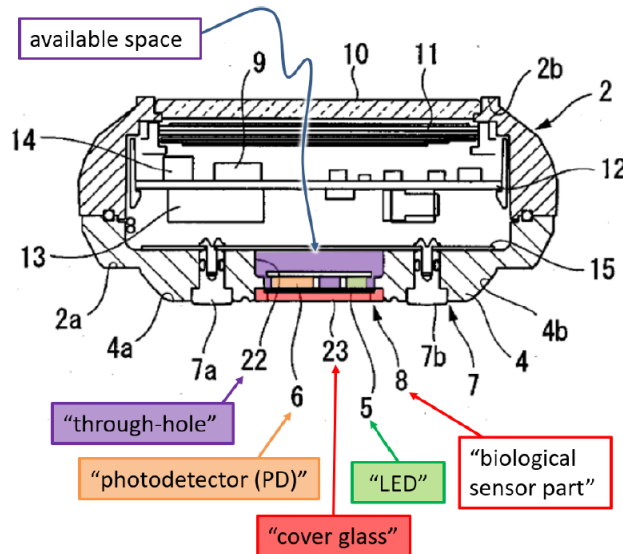
device based on Honda's teachings to align a charging receive coil behind this cover glass (in a similar position and with a similar size to that taught in Honda). With this straightforward modification (motivated, for example, by Kotanagi's own reference to "contactless" charging and Honda's teaching of how to do so in a watch-style device), the cover would be "configured to pass wireless power" in the claimed manner.

Id. at 30 (citing Ex. 1003 ¶¶ 127–129). Petitioner also asserts that Honda teaches that metal covers are inferior for power transmission due to eddy currents and, therefore, a person of ordinary skill in the art would have aligned the receive coil with Kotanagi's opening such that power could pass through the glass cover. *See id.* at 32 (citing Ex. 1003 ¶ 132; Ex. 1006, 2:48–50, Fig. 15).

Petitioner asserts that, "[g]iven Honda's teaching of a wireless receive coil near a rear opening similar to that taught in Kotanagi (where both Honda's and Kotanagi's openings have a cover glass), a POSITA would have noticed the available space near Kotanagi's opening and been motivated to use that space for such a coil, with a reasonable expectation of success." *Id.* at 31–32 (citing Ex. 1003 ¶ 131; Ex. 1005, Fig. 7). In that regard, Petitioner provides an annotated version of Kotanagi's Figure 7, which is reproduced below.

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Pet. 32. Above, is Petitioner’s annotated version of Kotanagi’s Figure 7 (a cross-sectional view of a biological information measuring device), labeling “available space” (purple) in through-hole 22 and around LED 5 (green) and photodetector 6 (orange), and above cover glass 23 (red). *See* Ex. 1005

¶¶ 41, 55.

Patent Owner, in its arguments concerning § 325(d), asserts that each of Petitioner’s references fails to disclose every limitation of the challenged claims. For example, Patent Owner argues that:

[L]ike the already-considered prior art during prosecution, neither Kotanagi nor Honda (or any other reference identified in the Petition) disclose or suggest a wrist-mounted device with a rear cover/opening that enables **both** wireless charging and biometric sensing. At best, each of these references teaches **either** wireless charging or biometric sensing via the rear cover/opening of the corresponding wrist-mounted device—much like the above-described references . . . that were cited and considered during prosecution.

Prelim. Resp. 40; *see also, e.g., id.* at 27 (“Kotanagi does not disclose or suggest where any wireless charging components (e.g., charge receiving coil, transformer, etc.) are positioned, nor does Kotanagi describe wireless

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charging using the *same cover/opening* via which optical signals are allegedly transmitted and received by/from the optical elements—as is required by the independent claims.”); *id.* at 27–28 (“Honda does not disclose whether the ‘unshown sensor’ is an optical sensor. Honda also does not disclose any optical signal transmission using such an ‘unshown sensor,’ much less describe that such optical transmission happens using *the same cover/opening* via which wireless power signals are transmitted—as is required by the independent claims.”). To the extent that these are offered as arguments regarding the merits of the patentably challenges, we do not find them persuasive on the present record. Petitioner’s challenges are premised on the contention that the *combination* of Kotanagi’s and Honda’s teachings renders obvious claimed subject matter having a cover/opening that can pass both wireless power and optical signals. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“Non-obviousness cannot be established by attacking references individually where the [challenge] is based upon the teachings of a combination of references.”).

Patent Owner also identifies what it characterizes as four motivating factors in the Petition and argues that “each of Petitioner’s alleged motivating factors is refuted by the express teachings of the references, and without any rational underpinning, Petitioner’s arguments amount to nothing more than an exercise in impermissible hindsight reconstruction to meet the claim language.” Prelim. Resp. 43; *see also id.* at 42–43 (listing the “factors”). For the reasons that follow, we do not find, on the present record, Patent Owner’s arguments to undermine Petitioner’s contentions regarding motivating factors.

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For the first factor, Patent Owner argues that “neither Kotanagi nor Honda discloses a rear cover that enables transmission of *both* wireless charging signals and biometric signals” and “there [is not] any disclosure or allegation in the Petition’s analysis of the independent claims suggesting that each device’s cover could or would additionally facilitate transmission of these two very different types of signals.” *Id.* at 44. Although Patent Owner uses the phrase “facilitate transmission,” we note that independent claims 1 and 9 recite a cover that “is configured to pass” optical signals and wireless power, and independent claim 15 (which does not recite a “cover”) calls for an opening through which optical signals and wireless power may be received by the respective component. *See, e.g.*, Ex. 1001, 59:3–7; *id.* at 60:1–7. It is not clear what, if any, significance Patent Owner places on its phrase “facilitate transmission.”

Petitioner’s proposed combination utilizes Kotanagi’s glass cover with the photodetector 6 and LED 5 (mapped to the biosensor module) and with the charging receive coil aligned with and behind the glass cover. *See* Pet. 22, 24, 30. Petitioner, with the supporting testimony of Dr. Duckworth, contends that “Kotanagi’s cover glass already passes optical signals to and from the LED and photodetector,” that “[Honda’s] station passes wireless power to the receive coil through a rear cover glass (similar to that of Kotanagi),” and that, therefore, in the proposed modification, “[Kotanagi’s] cover would be ‘configured to pass wireless power’ in the claimed manner.” *Id.* at 27–28, 30 (citing Ex. 1003 ¶¶ 125–129). We determine that Petitioner has adequately addressed, at this stage of the proceeding, the cover limitations.

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For the second factor, Patent Owner argues that “simply because two references are owned by entities in the same corporate family does not constitute a motivation to combine the references” and that “Honda pre-dated Kotanagi by over six years.” Prelim. Resp. 44. Patent Owner is referring to Petitioner’s statement that “[a] POSITA seeking to charge this [contactless] way would have looked to Honda—assigned to another subsidiary of the same Seiko parent company and providing compatible disclosure—to implement Kotanagi’s stated goal.” Pet. 25. Even if we were to determine that was not persuasive reasoning, it is not, as implied by Patent Owner, the sole motivation reasoning offered by Petitioner. *See, e.g., id.* at 24–25, 31–32.

For the third factor, Patent Owner argues that, “[s]imply because Honda puts its charging receive coil in the rear portion of the device does not constitute a reasonable motivation to combine, particularly when considering the structural differences between Honda’s and Kotanagi’s devices.” Prelim. Resp. 45 (citing Pet. 31–32). Patent Owner asserts that that Kotanagi’s device has numerous elements in the area identified by Petitioner as a location where a wireless charging coil could be added, and that Honda did not have to contend with that. *See id.* at 45–46. Patent Owner further argues that “Petitioner’s proposed assembly in its manufactured combination hypothesizes about what **could** be done—as opposed to what **would** have been done” by a person of ordinary skill in the art. *Id.* at 46–47. Relatedly, Patent Owner argues that there are other locations in Kotanagi’s device where a coil could be located and that Petitioner’s proposed location in the back of the housing is hindsight driven. *Id.* at 47. Patent Owner further argues that, if the coil was placed inward of the optical components, that

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would be contrary to Honda's teachings because of reduced efficiencies due to an increased distance between charging and receiving coils and due to the shielding by metal in the optical components. *Id.* at 47–49.

Although Petitioner does use the word “motivated,” we understand Petitioner's discussion of available space to be more directed to its contention of a reasonable expectation of success in making the proposed combination, and is not merely an assertion of what could (as opposed to would) be done. *See* Pet. 31 (“[A] POSITA would have noticed the available space near Kotanagi's opening and been motivated to use that space for such a coil, with a reasonable expectation of success.”).

Dr. Duckworth testifies regarding the knowledge of persons of ordinary skill in the art and further testifies that such a person would have had a reasonable expectation of success in adding a charging coil to a biosensing watch. *See, e.g.,* Ex. 1003 ¶¶ 65–100, 131–133. That testimony, at this stage, is un rebutted. We also do not find, on the present record, Patent Owner's arguments regarding alternative, unclaimed locations for the coil and alleged undesirable outcomes (e.g., reduced efficiency) to undermine Petitioner's contentions of unpatentability. *See Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (“It's not necessary to show that a combination is ‘the *best* option, only that it be a *suitable* option.’” (quoting *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197–98 (Fed. Cir. 2014))); *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (“[J]ust because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.”); *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“[A] given course of action often has

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simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.”).

For the fourth factor, Patent Owner addresses Petitioner’s contention that, because of Honda’s teaching of glass being better than metal for wireless power transmission, one would have aligned a charging coil in the rear of the housing and over Kotanagi’s cover glass. *See* Prelim. Resp. 49–50 (citing Pet. 32). Patent Owner argues that Kotanagi discloses that the housing can be either metal or plastic, that a person of ordinary skill would have been motivated to use plastic to address power transmission issues, and that “there would be no reason to position the charging receiving coil in the rear portion of Kotanagi’s device.” *Id.* at 50. Patent Owner also argues that “Kotanagi contemplates wired charging via the side surface (instead of the rear) of its wrist-worn device,” and “there would be no reason or benefit to relocate the wireless charging functionality away from the side surface of the device.” *Id.* at 50–51 (citing Ex. 1005 ¶ 53, Fig. 5). Petitioner has provided reasoning as to why a person of ordinary skill in the art would have aligned the coil with the opening and cover glass, and we do not agree with Patent Owner’s arguments regarding other alternatives. *See, e.g., In re Mouttet*, 686 F.3d at 1334 (“[J]ust because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.”).

We determine that Petitioner has demonstrated a reasonable likelihood of proving that Kotanagi in combination with Honda discloses or suggests a wireless charging receive coil positioned within the housing and aligned with the opening and a cover over the biosensor module that is configured to pass both optical signals and wireless power.

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c. [9d] a battery operably coupled to the wireless charging receive coil

Petitioner contends that “Kotanagi teaches a ‘rechargeable battery 13,’ which can be connected for ‘contactless,’ or wireless, charging.” Pet. 25 (citing Ex. 1005 ¶ 53). Petitioner further contends that “Honda specifically teaches a rechargeable battery coupled to a wireless charging coil.” *Id.* at 25 (citing Ex. 1006, 6:25–27 (Honda stating: “The watch body 201 includes a circuit board 221, connected to a secondary battery 220 and a watch-side coil 210.”)). Petitioner additionally contends that, “[t]o obtain power, a POSITA would have included a coil in the Kotanagi device and connected it to Kotanagi’s battery, as taught by Honda’s battery connection from coil to battery.” *Id.* at 26 (citing Ex. 1003 ¶¶ 122–123).

Patent Owner does not raise any arguments regarding these contentions beyond those addressed above (e.g., that there is no motivation to make the proposed combination).

Conclusion as to Independent Claim 9

Having considered the parties’ arguments and evidence, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claim 9 as being obvious over Kotanagi in view of Honda.

4. The Alleged Obviousness of Independent Claim 15 Over Kotanagi and Honda

Petitioner contends that independent claim 15 would have been obvious over Kotanagi and Honda. Pet. 41–50. Independent claim 15 recites a watch that is similar to the electronic device of independent claim 9. *See* Ex. 1001, 59:32–60:7. One difference is that claim 15 recites, rather than a cover configured to pass signals and power, the biosensor module and wireless charging receive coil positioned and configured to

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receive signals and wireless power, respectively, “through the opening of the housing.” *Id.* at 60:1–7. Petitioner’s contentions for claim 15 are similar to those of claim 9. *See, e.g.*, Pet. 44–50 (addressing the “opening” limitations). Patent Owner does not raise any arguments regarding Petitioner’s contentions for claim 15 beyond those addressed above for independent claim 9.

We determine that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claim 15 as being obvious over Kotanagi and Honda.

E. The Alleged Obviousness of Independent Claim 1 Over Kotanagi and Honda and, Alternatively, Over Kotanagi, Honda, and Kateraas (Ground 3)

Petitioner alleges that claims 1–7 and 14 of the ’783 patent would have been obvious over Kotanagi and Honda or, in the alternative, over Kotanagi, Honda, and Kateraas. *See* Pet. 57–69 (addressing independent claim 1). Of those challenged claims, claim 1 is independent.

Independent claim 1 is similar to independent claims 9 and 15. Claim 1, generally speaking, recites an electronic device having housing with a band to secure the device to a user, and with the housing having two openings on opposite sides. *See* Ex. 1001, 58:2–7. A display is in the first opening and a ceramic cover is over the second opening (i.e. in the back of an electronic watch). *See id.* at 58:7–10. A biosensor is in the second opening and below the ceramic cover, and a wireless charging receive coil is aligned with that same opening and is below the ceramic cover. *See id.* at 58:11–15. The ceramic cover is configured to pass both optical signals of the biosensor module and wireless power from an external charging device to the receive coil. *See id.* at 58:17–21.

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Petitioner contends that a person of ordinary skill in the art would understand that the claim term “ceramic” encompasses glass as well as sapphire. Pet. 13 (claim construction section; citing, *inter alia*, Ex. 1001, 26:16–19 (“the rear cover 608 may be formed from a sapphire sheet”); Ex. 1003 ¶¶ 45–49; Ex. 1044, 11; Ex. 1045, 12; Ex. 1042, 8, 10). Patent Owner, at this stage, does not disagree with these contentions. *See* Prelim. Resp. 17 (“While not agreeing with Petitioner’s proposed constructions . . . , *solely* for purposes of this Preliminary Response, Patent Owner does not object to the constructions proposed by Petitioner at this time.”); *see also* PO Prelim. Sur-reply 6 (“The Examiner relied upon Yuen’s glass cover in forming claim rejections and subsequently, did not include ceramic cover as a feature that led to allowance. The record thus confirms that ceramics were considered as disclosed by the art of record and the Examiner did not err with respect to the ‘ceramic’ feature.”).

Petitioner contends that Kotanagi’s cover glass 23 satisfies the “ceramic cover” limitation. Pet. 60 (citing Ex. 1003 ¶ 187). In the alternative, Petitioner asserts that Kateraas (Ex. 1014) teaches using a ceramic, namely sapphire, as a window for infrared sensors in a biosensor watch, and asserts that the combination of Kotanagi, Honda, and Kateraas renders obvious claimed subject matter having a ceramic cover. Pet. 60–64 (citing, *inter alia*, Ex. 1003 ¶¶ 46, 189). Patent Owner does not raise any arguments regarding Petitioner’s contentions for claim 1 beyond those addressed above for independent claim 9.

We determine that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claim 1 as being obvious over Kotanagi and Honda or, alternatively, over Kotanagi, Honda, and Kateraas.

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F. The Remaining Challenged Claims

Each of the remaining challenged claims depends from one of the independent claims discussed above. Petitioner contends that each of those dependent claims would have been obvious over Kotanagi and Honda in further combination with one or more references. Pet. 53–57, 87–107 (Grounds 2, 4–6). Patent Owner does not raise any arguments regarding Petitioner’s contentions beyond those addressed above for the independent claims.

V. CONCLUSION

Petitioner has demonstrated a reasonable likelihood of prevailing in showing the unpatentability of at least independent claims 1, 9, and 15. Accordingly, we institute an *inter partes* review on all challenged claims on all asserted grounds. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); 37 C.F.R. § 42.108(a) (“When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”). At this stage of the proceeding, we have not made a final determination with respect to the patentability of any of the challenged claims.

VI. ORDER

For the foregoing reasons, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–20 of the ’783 patent is instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the ’783 patent shall commence

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on the entry date of this Order, and notice is hereby given of the institution of a trial.

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